

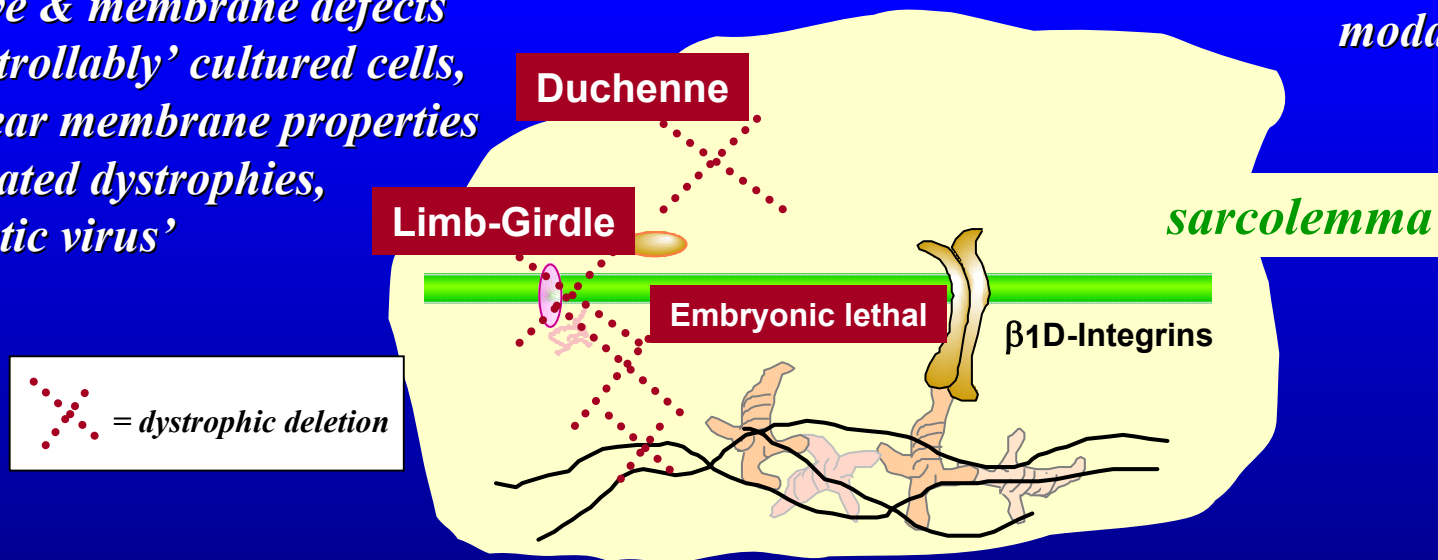
BRP directed at Muscular Dystrophies

- *To understand the adhesive and membrane mechanical defects in MD's from single molecules up through the cell & tissue levels.*
- *To thus build a testable basis for therapies (eg. gene).*

*Dennis Discher (co-PI)
Institute for Medicine & Eng.,
Assoc. Professor
measure single molecule
mechanics, & elaborate
adhesive & membrane defects
in 'controllably' cultured cells,
+ nuclear membrane properties
and related dystrophies,
'synthetic virus'*

*H.Lee Sweeney (PI)
Physiology, Chair
creation of molecular
constructs, vectors,
dystrophic cell lines,
& transgenic mice*

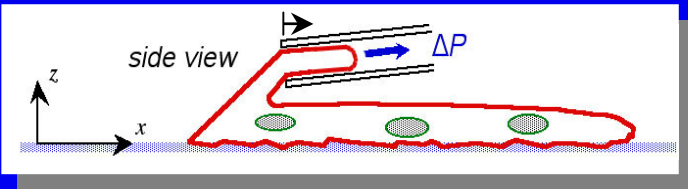
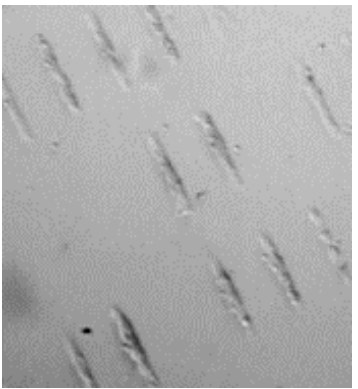
*Glenn Walter (co-PI)
Physiology, Instructor
development of
non-invasive,
tissue-level imaging
modalities*



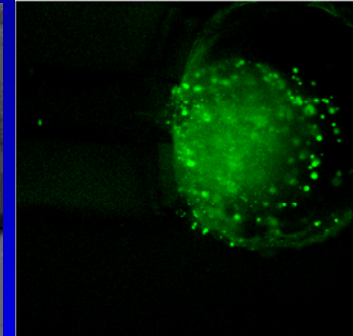
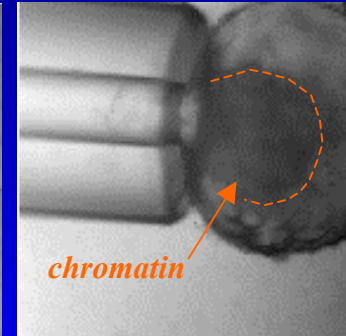
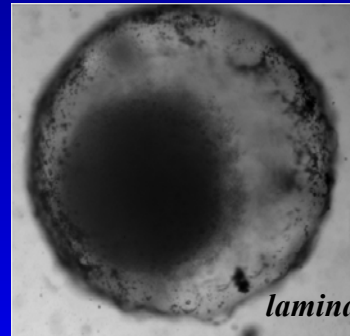
Cell & Molecular Biophysics - Approaches

Cell Patterning & Peeling

Gel-defined
strips

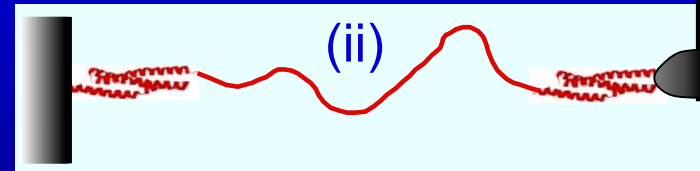
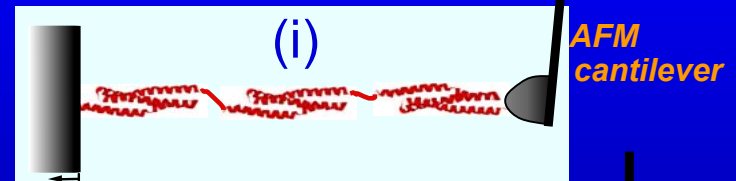


Properties of Isolated Nuclei



Osmotically swollen, with
separated nuclear lamina

Molecular Extensibility (with unfolding)



Synthetic polymer 'viruses' for mini-gene delivery

